**Remarks**

Favorable reconsideration of this application is requested in view of the above amendments and in light of the following remarks and discussion.

Claims 1-16 are pending in the application. Claim 1 is amended, and new claims 7-16 are added. Support for the changes to the claims is self-evident from the originally filed disclosure, including the original claims, and therefore no new matter is added.[1]

In the Office Action claims 1-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over PCT Publication no. WO 00/24047 to Hirayama et al. (Hirayama) in view of U.S. Patent No. 5,997,687 to Koshimizu. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirayama and Koshimizu, in view of U.S. Patent Publication No. 2003/0062128 to Denpoh or U.S. Patent Publication No. 2004/0020599 to Tanaka et al. It is requested that the rejections of the claims be withdrawn, and the claims allowed, for the following reasons.

The present invention, as recited in independent claim 1, is directed to a plasma processing apparatus. Specifically, independent claim 1 recites a vacuum chamber accommodating therein a substrate to be processed, allowing an inner space of the vacuum chamber to be maintained at a vacuum level. A first electrode is fixedly disposed at a location in the vacuum chamber. A second electrode is installed in the vacuum chamber and faces the first electrode. The second electrode is vertically movable so as to vary a distance between the first electrode and the second electrode. A driving mechanism, installed outside the vacuum chamber, is used for vertically moving the second electrode. A bellows unit airtightly seals an opening. The bellows unit has an upper bellows portion, a lower bellows

[1] Support for the changes is provided, in part, by original Figure 1, and the accompanying description of the figure.

portion, and a ring member connected to the driving mechanism. The opening, through which the second electrode is driven by the driving mechanism from the outside of the vacuum chamber, is provided at the vacuum chamber. The ring member is disposed between the upper bellows portion and the lower bellows portion. An electrode supporting member, installed in the vacuum chamber, is used for connecting the ring member to the second electrode. A high frequency power source generates plasma by supplying a high frequency power between the first electrode and the second electrode.

In contrast, Hirayama discloses a semiconductor manufacturing apparatus including a movable cylinder which surrounds a substrate stage, wherein a gap between the cylinder and a vacuum vessel top plate or bottom plate is made variable by lifting/lowering the cylinder in order to occupy a small floor area for installation.

Regarding the second electrode and the driving mechanism for vertically moving the second electrode in independent claim 1, the Office Action asserts that the shower plate 114 which corresponds to the second electrode is vertically moved by the driving mechanism (cylinder lifting/lowering mechanism) 109 so as to vary a distance between the first electrode and the second electrode. However, even if the shower plate functions as the second electrode for generating plasma over Hirayama in view of Koshimizu as asserted in the Office Action, the shower plate is not vertically movable. Rather, the shower plate is fixed to the vacuum vessel top plate 103. *See* Figures 2 and 3. Further, the wafer stage 105 is also fixed. *See* Fig. 2.

Instead, the cylinder 107 is lifted/lowered by the cylinder lifting/lowering mechanism 109. Specifically, the cylinder 107 comes into contact with the vacuum vessel top plate 103 during standby and processing for isolating the transport chamber 112 from the processing chamber 111, whereas the cylinder 107 is lowered to form a gap between the cylinder 107

and the vacuum vessel top plate 103 for transporting wafers through the gap during waver transport. See Figs. 1 to 3, and paragraph [0015]. Therefore, it is submitted that Hirayama does not disclose or render obvious the vertically movable second electrode and the driving mechanism.

Further, with respect to the bellows unit, the bellows unit is provided to airtightly seal the opening through which the second electrode is driven by the driving mechanism in accordance with the present invention. Further, the ring member is installed at a middle portion of the bellows unit, i.e., disposed between the upper bellows portion and the lower bellows portion. Therefore, the upper bellows portion disposed above the ring member and the lower bellows portion disposed below the ring member can be respectively extended and contracted in opposite directions by vertically moving the ring member while maintaining a constant total length of the bellows unit. Further, by using the above configuration, the distance from the first electrode to the second electrode can be varied while constantly maintaining the inner space of the vacuum chamber in vacuum.

However, Hirayama is silent with respect to the bellows unit having the ring member between the upper bellows portion and the lower bellows portion to airtightly seal the opening through which the second electrode is driven by the driving mechanism. Namely, a total length of the bellows unit 106 according to Hirayama is varied depending on stand-by or wafer transport.

Furthermore, it is submitted that Hirayama does not disclose or render obvious the electrode supporting member for connecting the ring member to the second electrode, because Hirayama does not depict or describe the ring member.

Accordingly, Hirayama does not disclose or render obvious a plasma processing apparatus including a vertically movable second electrode, a bellows unit having a ring

member for airtightly sealing an opening, and an electrode supporting member for connecting the ring member to the second electrode. This is in contrast to the present invention.

It is submitted that an object of the present invention is to provide a plasma processing apparatus capable of reducing a manufacturing cost and a footprint of the apparatus by decreasing a load exerted on a device for varying a distance between electrodes, and easily meeting a scaling up of a substrate to be processed. However, the object of Hirayama is to provide a semiconductor manufacturing apparatus capable of uniform processing on the substrate and occupying a small floor area for installation. As the object of Hirayama fundamentally differs from that of the present invention, Hirayama does not provide the necessary motivation to modify the reference to produce the claimed invention.

For these reasons, it is requested that the rejection of independent claim 1 be withdrawn. The allowance of independent claim 1 is therefore requested.

Independent claim 9 is allowable for reasons similar to those discussed above with respect to independent claim 1. The allowance of independent claim 9 is requested.

Claims 2-8 and 10-16 are allowable for the same reasons as independent claims 1 and 9 from which they depend, as well as for their own features particularly in combination with those of the independent claims. The allowance of dependent claims 2-8 and 10-16 is therefore requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a Notice of Allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

Respectfully submitted,

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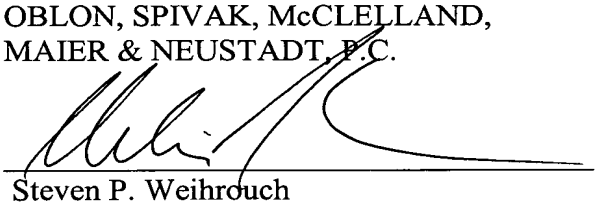

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